Status of ISS simulations

ECAL-E calorimeter geometries:

- Distance between two consecutive layers: 15 mm
- Si sensors dimensions: 18 cm x 18 cm x 0.05 cm

1 st geometry - MC simulations related with the TB2022 at DESY			
Layer	Si sensor [µm]	W plate [mm]	Obs
1	500	2.8	
2	500	2.8	
3	500	2.8	
4	500	2.8	
5	500	2.8	
6	500	2.8	
7	500	2.8	
8	500	4.2	
9	500	4.2	
10	500	4.2	
11	500	4.2	
12	500	4.2	
13	500	4.2	
14	500	4.2	
14 15	500 500	4.2 4.2	
15 2 nd geor	500 netry - MC simul	4.2 ations related with	h the TB2022 at CERN
15	500	4.2	h the TB2022 at CERN Obs
15 2 nd geor	500 netry - MC simul	4.2 ations related with W plate [mm] 4.2	
15 2 nd geor Layer	500 netry - MC simul Si sensor [μm]	4.2 ations related with W plate [mm]	
15 2 nd geor Layer 1	500 netry - MC simul Si sensor [μm] 500	4.2 ations related with W plate [mm] 4.2	
15 2nd geor Layer 1 2 3 4	500 netry - MC simul Si sensor [μm] 500 500	 4.2 ations related with W plate [mm] 4.2 4.2 	
15 2nd geor Layer 1 2 3	500 netry - MC simul Si sensor [μm] 500 500 500	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2	
15 2nd geor Layer 1 2 3 4	500 netry - MC simul Si sensor [μm] 500 500 500 500 500	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2	
15 2 nd geor Layer 1 2 3 4 5	500 netry - MC simul Si sensor [μm] 500 500 500 500 500 500	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2	
15 2 nd geor Layer 1 2 3 4 5 6	500 netry - MC simula Si sensor [μm] 500 500 500 500 500 500 500 50	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2	
15 2 nd geor Layer 1 2 3 4 5 6 7 8 9	500 netry - MC simul Si sensor [μm] 500 500 500 500 500 500 500 500 500 500 500 500 500 500 500 500	4.2 ations related with W plate [mm] 4.2	
15 2 nd geor Layer 1 2 3 4 5 6 7 8	500 netry - MC simul Si sensor [μm] 500 500 500 500 500 500 500 500 500 500 500 500 500 500 500 500 500 500	4.2 ations related with W plate [mm] 4.2	
15 2 nd geor Layer 1 2 3 4 5 6 7 8 9	500 netry - MC simula Si sensor [μm] 500	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 5.6	
15 2 nd geor Layer 1 2 3 4 5 6 7 8 9 10	500 netry - MC simula Si sensor [μm] 500	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 5.6 5.6	
15 2nd geor Layer 1 2 3 4 5 6 7 8 9 10 11	500 netry - MC simul Si sensor [μm] 500	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 5.6 5.6 5.6	
15 2nd geor Layer 1 2 3 4 5 6 7 8 9 10 11 12	500 netry - MC simul Si sensor [μm] 500	4.2 ations related with W plate [mm] 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 5.6 5.6 5.6 5.6 5.6	

Done:

Using a standalone application in Geant4 Mihai implemented the geometry setup of the Calice experiment from TB2022 which took place at DESY. More details can be found in Mihai's presentation uploaded to the ECAL working group meeting (<u>https://indico.desy.de/event/34664/contributions/122951/attachments/74811/95903/6.12-mai-2022-potlog.pdf</u>

To be done:

Using the same standalone G4 application to redo the geometry setup takes into account the new tungsten thickness. As we discussed at the ECAL meeting the first 8 layers are 4.2 mm thick and the next 7 layers are 5.6 mm thick.